

IGFBP3 (4): sc-135947

BACKGROUND

The Insulin-like growth factor-binding proteins (IGFBPs), a family of homologous proteins that have co-evolved with the IGFs, serve not only as shuttle molecules for the soluble IGFs, but also confer a level of regulation to the IGF signaling system. Physical association of the IGFBPs with IGF influences the bio-availability of the growth factors, and their concentration and distribution in the extracellular environment. The IGFBPs also appear to have biological activity independent of the IGFs. Seven IGFBPs have been described, each differing in their tissue distribution, half-lives and modulation of IGF interactions with their receptors. IGFBP1 is negatively regulated by Insulin production. The IGFBP1 gene is expressed at a high level during fetal liver development and in response to nutritional changes and diabetes. IGFBP2, which may function as a chaperone, escorting IGFs to their target tissues, is expressed in several human tissues including fetal eye and fetal brain. IGFBP3, the most abundant IGFBP, is complexed with roughly 80% of the serum IGFs. Both IGFBP3 and IGFBP4 are released by dermal fibroblasts in response to incision injury. IGFBP5 is secreted by myoblasts and may play a key role in muscle differentiation. IGFBP6 differs from other IGFBPs in having the highest affinity for IGF-II. Glycosylated human IGFBP6 is expressed in Chinese hamster ovary (CHO) cells, whereas non-glycosylated recombinant human IGFBP-6 is expressed in *E. coli*. IGFBP7, a secreted protein that binds both IGF-I and IGF-II with a relatively low affinity, stimulates prostacyclin production and may also function as a growth-suppressing factor.

CHROMOSOMAL LOCATION

Genetic locus: IGFBP3 (human) mapping to 7p12.3.

SOURCE

IGFBP3 (4) is a mouse monoclonal antibody raised against amino acids 101-210 of IGFBP3 of human origin.

PRODUCT

Each vial contains 50 µg IgG₁ in 0.5 ml of PBS with < 0.1% sodium azide, 0.1% gelatin, 20% glycerol and 0.04% stabilizer protein.

APPLICATIONS

IGFBP3 (4) is recommended for detection of IGFBP3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for IGFBP3 siRNA (h): sc-39587, IGFBP3 shRNA Plasmid (h): sc-39587-SH and IGFBP3 shRNA (h) Lentiviral Particles: sc-39587-V.

Molecular Weight of IGFBP3 isoforms: 40/44 kDa.

Positive Controls: MIA PaCa-2 cell lysate: sc-2285 or human plasma extract: sc-364374.

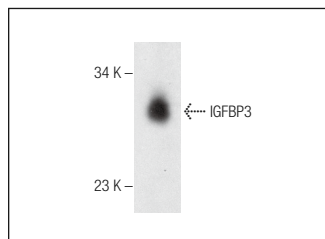
RESEARCH USE

For research use only, not for use in diagnostic procedures. Not for resale.

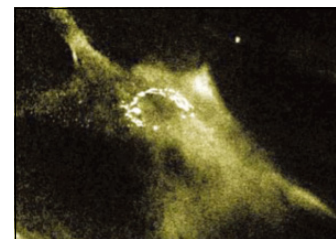
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



IGFBP3 (4): sc-135947. Western blot analysis of IGFBP3 in human plasma.



IGFBP3 (4): sc-135947. Immunofluorescence staining of human fibroblast cells showing cytoplasmic and extracellular localization.

SELECT PRODUCT CITATIONS

1. Sekizawa, N., et al. 2011. Transcriptome analysis of aldosterone-regulated genes in human vascular endothelial cell lines stably expressing mineralocorticoid receptor. *Mol. Cell. Endocrinol.* 341: 78-88.
2. Ferraro, Z.M., et al. 2012. Characterization of the Insulin-like growth factor axis in term pregnancies complicated by maternal obesity. *Hum. Reprod.* 27: 2467-2475.
3. Guan, J., et al. 2014. Cyclic glycine-proline regulates IGF-1 homeostasis by altering the binding of IGFBP-3 to IGF-1. *Sci. Rep.* 4: 4388.
4. Young, K., et al. 2015. BMP9 crosstalk with the hippo pathway regulates endothelial cell matricellular and chemokine responses. *PLoS ONE* 10: e0122892.
5. Sun, H., et al. 2016. CRM1 inhibition promotes cytotoxicity in ewing sarcoma cells by repressing EWS-FLI1-dependent IGF-1 signaling. *Cancer Res.* 76: 2687-2697.
6. Zhou, N., et al. 2018. MiR-197 promotes the invasion and migration of colorectal cancer by targeting Insulin-like growth factor-binding protein 3. *Oncol. Rep.* 40: 2710-2721.
7. Li, Q., et al. 2021. Single-cell transcriptome profiling reveals vascular endothelial cell heterogeneity in human skin. *Theranostics* 11: 6461-6476.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



See **IGFBP3 (E-9): sc-374365** for IGFBP3 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.